



033488-001.ST25

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SEQUENCE LISTING

JUN 13 2002

TECH CENTER 1600/2900

<110> Weber, Bernard H.F.
Stoehr, Heidi

<120> Novel retina-specific human proteins C7orf9, C12orf7, MPP4 and F379

<130> 033488-001

<140> US 09/995,793

<141> 2001-11-29

<150> 60/253,751

<151> 2000-11-29

<160> 71

<170> PatentIn version 3.1

<210> 1

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<212> DNA

<213> Homo sapiens

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<221> misc feature

<223> artificial sequence, Translation start at 209; stop at 2435

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 cgccacgaga tgacagggga catcttggtg gccaggatca tccacggtgg gctggcggag 240
 agaagtggta agctggagca gctgggattg agagttacca gaaaaacagg aaacccttga 300
 ctgttttaggc ttctttctag agaaatccct tttttttctt tttttttttc tttttttttt 360
 tttgagatgg agtcttgctc tgtcgcccag gctggagtgc agtggcgtga tctcggctca 420
 ctgcaagctc cacctctggg gtttgcca 448

<210> 9
 <211> 448
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <223> genomic DNA, Exon from 162 to 247

<400> 9
 atgtaagttg gaataaccag ctttcttttc tattattatt ttatattaaa cattttttaga 60
 gcatgcttgg gttagtgaat taaatagcta tcgaggtagc tactgctatt tttatcctac 120
 ttctttgtat ctttctttgt tttttgttac tgtctgccta gggttgctat atgctggaga 180
 caaactggta gaagtgaatg gagtttcagt tgagggactg gaccctgaac aagtgatcca 240
 tattctggta aatcttcttt ttgccttttt gttaatgact tggagaaatg ccaaggctga 300
 actgggacca tcaagccac gtgtgtgcac tgggatgtac cggggactca agttctcttg 360
 gcagctttct cctccaggc tcccagacct tgtctgtcac ccatgtcact tgctgacctc 420

cctcctctac cccgagaagt tctggtcc

448

<210> 10
 <211> 384
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <223> genomic DNA, Exon from 158 to 229

<400> 10
 ccatttctgg atggtgacag ctgcagagcc cttgtgaaag gctcttgggg gattttacca 60
 tgagacctgg atacattgca ctgtaactct gtccacogag cccagtaac cctgctagct 120
 ccatgattgt catcctttct cctctcttat tttccaggcc atgtctcgag gcacaatcat 180
 gttcaagggtg gttccagtct ctgacccctcc tgtgaatagc cagcagatgg taagaattta 240
 ctgagccttc aatctcacac acagtaaata cccaagtaac agcaactaaa tatgatgcgt 300
 aataatccta tcctttgtac tgtgttgagc ctggattcaa gactgtgttg gatatttttc 360
 aatactgatg gcccgagaag caaa 384

<210> 11
 <211> 448
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <223> genomic DNA, Exon from 138 to 334

<400> 11
 ggggtggagag gaaagatagg agtagcaggt ggaggagtgg gagaaatggt ttttaagtcatt 60
 gatggcccatg gggcaagggt tcttcggatg gcaccattag gcaccttctg atagcgtcat 120
 tatgcacctg ccatcagggtg tacgtccgtg ccatgactga gtactggccc caggaggatc 180
 ccgacatccc ctgcattggc gctggattgc ctttccagaa gggggacatc ctccagattg 240
 tggaccagaa tgatgcctc tgggtggcagg cccgaaaaat ctcagaccct gctacctgcg 300
 ctgggcttgt cccttctaac caccttctga agaggtaagg aacgtcacca ctcttgact 360
 cagggtctgaa ccatcaggaa acaaaatgtt tttcttgggt ttctgttacc tcaagatgag 420
 ataaagaggg acaagcagat gaatgaac 448

<210> 12
 <211> 320
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <223> genomic DNA, Exon from 152 to 216

<400> 12
 atttggagaa gcaatcacc ctttcaacttg agtgaaggca gcagaattct aagaaacatt 60
 ctgtttgtcg ttgctctggg tctgtttcat ctaggttaac aaagagtggg ttttgtttgt 120
 tttttgtcgc atggtttttt cccccccata ggaagcaacg ggaattcttg tggctcagc 180
 cgtaccagcc tcacacctgc ctcaagtcaa ccctatgtga gtattgcaac tgcccagacg 240
 gttcttctcg tttgcaataa agaccatggc attgcagtaa ataaagagtc taattgatgt 300

gaggctggcc atgccacatg

320

<210> 13
 <211> 320
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <223> genomic DNA, Exon from 161 to 178

<400> 13
 cttactaaat cttccctgaa tttctagaga ataaaccag aatactaatt acaataattt 60
 ttgcacatta catttcttat tgtaaattaa tctgagaaaa tatagtacag atactgtgtt 120
 ctttttatcc cccctgcttc aatcatttgc ttgtactcag caatttctat ggaagaagggt 180
 aagaaatagt atttaggaaa aaactcttat ctccaaagtc ttttagaaat ttctttagt 240
 ttaaagaatt cactttaatt cagttcagct atttattaag ctcttcctat atacctagta 300
 gtgtgatagt cattattaag 320

<210> 14
 <211> 384
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <223> genomic DNA, Exon from 179 to 217

<400> 14
 catggtttca ccatgtcggc caagttggc tcgaactctt gatctcaggt gatccgccc 60
 cctcggcctc ccagagtgtc gggatcacag gcatgagcca ccatgcctgg ccgggaattt 120
 tctttttaat gcagacacat tttaaattct gtttctccct ttctatactc ttttatagaa 180
 gatgacatga agattgatga gaaatgtgtg gaagcaggta acattttctc ttgattgctt 240
 tgctgttaga agaaatatga agcatgtcaa ttatagatta tctgaagcag aggtgtccaa 300
 aggggccatg ggcctttcct ctagaaatgt gtaaaatgac cctccacccc catctatctt 360
 ctgtagttct ggcacttgga agga 384

<210> 15
 <211> 320
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <223> genomic DNA, Exon from 110 to 130

<400> 15
 gtggtgtatg ggcagaagta ggggccagag aattagactt aaaatataga ctcagtgtag 60
 atggtcatgt aataacattt ttgatttttg cctccatgaa aaatcataga tgaagaaaca 120
 tttgaatctg gtaagtaaaa aatgagtatt tggtagctat ttttaaatgt atattctaaa 180
 ttttgatgca atttatacac atatttataa taactgttta aatatatcaa cattaaaaaa 240
 ttaaaaagta actgcgtgta tcccacatca tgttgtcaac ctcaaatata cattataaaa 300
 tttattttta attttaattt 320

<210> 16
 <211> 320
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <223> genomic DNA, Exon from 174 to 188

<400> 16
 cagtcccaat catgtggtga tcatttgcct tgccaggcct tacccgagtt accttttgcct 60
 agtgggtgacg tgcacgtctt gcttatgtca tttgccttga tttgatggct aacatgatct 120
 tcttaaaggc ttaacttttt catgtctgtt tctgcaacta cccaaatata cagaggaact 180
 ttcagaaggt aattgttttt atttcctaga tataccaaat agaactatgt ttaagatctt 240
 tcagtgcctc aaaaatgaat acttgactgg ataatgttta agatgaagat acggaatttg 300
 ttgttgttta tggttttccc 320

<210> 17
 <211> 320
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <223> genomic DNA, Exon from 170 to 211

<400> 17
 ataggatgaa aaatgcttag aacatttcggt gagccactca aggataaatt caactctgct 60
 gccgtctact aagggtggtca cttgaaaagt tgaaaatgat ttcatgaatt tattctgaat 120
 aaactttctg ctctcacata ttctgctcca tctgttcttt gtgtttcaga caaggaggag 180
 tttgttggtc acggtcagaa gttctttata ggtagggtgat aaattaacaa gaggtgggtc 240
 tctgtcactt gttaaattat gtttccaaac ctgacactgt tttgaaagt tcttttgcta 300
 atgaacattt ccagacctgt 320

<210> 18
 <211> 512
 <212> DNA
 <213> Homo sapiens

<400> 18
 cccaagacaa tgccctggccc agagcagggt ctagatgggc tagcacaggg ggcattttca 60
 tatttttccc tcatattact tcccatcttc taacttcaga cagacctgac tatattaatg 120
 aacacttttag gatcatggtt gctacatatt tcatcagggt tgaagctaca agtgaatctt 180
 cctgcctggt tcttacgttc tgtgcaactc ccctccctag ctggcttccg ccgcagcatg 240
 cgcctttgtc gcaggaagtc tcacctcagc ccgctgcatg ccagtgtgtg ctgcaccggc 300
 agctgctaca gtgcagtggg tgccccttac gaggagggtg tgaggtaacca gcgacgccct 360
 tcagacaagt accgcctcat agtgctcatg ggtatgtccc agcatgcact gtctctcctc 420
 ctctttgaga agtcttcctt ctagattcag gtgtcttgca ttgggaataa tgggtgaaagt 480
 agaactcttt atggaccccc atacaaatac ct 512

<210> 19
 <211> 384
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <223> genomic DNA, Exon from 160 to 240

<400> 19
 ttctgggggtt cttccaattt atgagaaagg aagttacata atttcacctaa aaatatttgc 60
 tctcaagttt cttcagtaga aggactaaaa tgataattcc atcacataat tatattttatc 120
 cacatctgat gattttctgtg tgtgactttt tgtgttttagg accctctggt gttggagtaa 180
 atgagctcag aagacaactt attgaattta atcccagcca ttttcaaagt gctgtgccac 240
 gtatgttttag ttctgctttc ataattggtt gtgttttggg aaaactttct ttgctgatct 300
 catttaacta tgtcattcca tctttgttgt aaaagtatac aacaccaggg atagttctta 360
 agtatttcta accatattta tttt 384

<210> 20
 <211> 448
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <223> genomic DNA, Exon from 200 to 293

<400> 20
 tcagtaaagg tttatagact aactgatttt gatacgagaa cttatcacca attcaggctt 60
 cttcttttta gttctagcat tttatctoct tgattatata ttcatttatt tatttttgatt 120
 agatatcttt attcaaattgc atattggtaa tcaaagaatt ctgaagacac tgaaaccttt 180
 cattcccttt ttctgataga cactactcgt actaaaaaga gttacgaaat gaatgggcgt 240
 gagtatcact atgtgtccaa ggaaacattt gaaaacctca tatatagtca caggtaaagt 300
 agaggttcag aagctgattc ttacctcttg ttgttttaca tttgaaatag attccctatt 360
 tttatgtatt ttccaaatct cctgggtaat tccttttgtt tctgaggagt taagcaagaa 420
 atgtacatcg atatacagca caccaact 448

<210> 21
 <211> 448
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <223> genomic DNA, Exon from 133 to 241

<400> 21
 atctattcat tctttctgtg ttaataaagt ccacatattt atattcaact ctagtgcagt 60
 ttatcctcat gttactacta ataataattt cctttagtaga agtggttctgt tttgtttggc 120
 ctgctcttgc aggatgctgg agtatggtga gtacaaaggc cacctgtatg gcactagtgt 180
 ggatgctgtt caaacagttc ttgtcgaagg aaagatctgt gtcattggacc tagagcctca 240
 ggtgggtcca tgggtggaata tttatgtccc caaacaatga atgcgtatca tccatttttt 300
 gtgcacatgc tgtaggttat agttgagaca tttattctgt tagcctttta agaataaggc 360
 catttcccat atataagatc ttacttaacg tgtcaattga caacatttta cttttagttg 420
 ggaaagaagt cttgcttctc agacagaa 448

<210> 22
 <211> 448
 <212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<223> genomic DNA, Exon from 164 to 298

<400> 22

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agctacttgg gaggtcgaga tgggtggatc gtttgagcct gggaagctga ggctacagtg      60
aactgtgatt gcaccacagc actccagcct gggtgacaga gcaagaccat gtctcaaaac      120
aaaacaaaaca aaaaataaat gtgcatttaa attttctgtg taggatattc aaggggttcg      180
aaccocatgaa ctgaagccct atgtcatatt tataaagcca tcgaatatga ggtgtatgaa      240
acaatctcgg aaaaatgcc aagttattac tgactactat gtggacatga agttcaagg      300
aagagcaagt caaaaactac tgtattgctt tcagtggcct ctgctgtggga gagatctggg      360
ttgggctggg ccaaggatct ctgatctcat tgtcctcctc ctcttttttg accccctctc      420
caaaaggccc tcaataaaat ggtttact                                     448

```

<210> 23

<211> 704

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<223> genomic DNA, Exon from 197 to 704

<400> 23

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ttttctagtt tgctgggttt gtagaatttt gaaaaaatat ttttgaaact ttattgaaaa      60
tcatctgtgc aaaattttcg gaccttactg tttttataca tagtttcaca actgaatgtg      120
acagcataac aaactgtatt ttttccattt gtccaattaa gtctgtacta tccatatttt      180
tctattttct ctaaaggatg aagacctaca agagatggaa aatttagccc aaagaatgga      240
aactcagttt ggccaatttt ttgatcatgt gattgtgaat gacagcttgc acgatgcatg      300
tgcccagttg ttgtctgcc aacagaaggc tcaggaggag cctcagtggg taccagcaac      360
atggatttcc tcagatactg agtctcaatg agacttcttg tttaatgctg gagttttaac      420
actgtaccct tgatacagcg atccatagtt gcaatctaaa acaacagtat ttgaccatt      480
ttaatgtgta caactttaaa agtgcagcaa tttattaatt aatcttattt gaaaaaaatt      540
tttattgtat ggttatgtgg ttacctatgt taacttaatt ttttttctt tacctcatat      600
gcagctgtgg tagaaatatg aataatgtta agtcaactgag tatgagaacc tttcgcagat      660
ttcacatgat ctttttaaga tttaaataaa gagctttcct aaat                                     704

```

<210> 24

<211> 637

<212> PRT

<213> Homo sapiens

<400> 24

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Met Ile Gln Ser Asp Lys Gly Ala Asp Pro Pro Asp Lys Lys Asp Met
1           5           10           15
Lys Leu Ser Thr Ala Thr Asn Pro Gln Asn Gly Leu Ser Gln Ile Leu
20           25           30
Arg Leu Val Leu Gln Glu Leu Ser Leu Phe Tyr Ser Arg Asp Val Asn
35           40           45
Gly Val Cys Leu Leu Tyr Asp Leu Leu His Ser Pro Trp Leu Gln Ala
50           55           60
Leu Leu Lys Ile Tyr Asp Cys Leu Gln Glu Phe Lys Glu Lys Lys Leu

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65					70					75					80
Val	Pro	Ala	Thr	Pro	His	Ala	Gln	Val	Leu	Ser	Tyr	Glu	Val	Val	Glu
				85					90					95	
Leu	Leu	Arg	Glu	Thr	Pro	Thr	Ser	Pro	Glu	Ile	Gln	Glu	Leu	Arg	Gln
			100					105					110		
Met	Leu	Gln	Ala	Pro	His	Phe	Lys	Ala	Leu	Leu	Ser	Ala	His	Asp	Thr
		115					120					125			
Ile	Ala	Gln	Lys	Asp	Phe	Glu	Pro	Leu	Leu	Pro	Pro	Leu	Pro	Asp	Asn
		130					135				140				
Ile	Pro	Glu	Ser	Glu	Glu	Ala	Met	Arg	Ile	Val	Cys	Leu	Val	Lys	Asn
145					150					155				160	
Gln	Gln	Pro	Leu	Gly	Ala	Thr	Ile	Lys	Arg	His	Glu	Met	Thr	Gly	Asp
				165					170					175	
Ile	Leu	Val	Ala	Arg	Ile	Ile	His	Gly	Gly	Leu	Ala	Glu	Arg	Ser	Gly
			180					185					190		
Leu	Leu	Tyr	Ala	Gly	Asp	Lys	Leu	Val	Glu	Val	Asn	Gly	Val	Ser	Val
		195					200					205			
Glu	Gly	Leu	Asp	Pro	Glu	Gln	Val	Ile	His	Ile	Leu	Ala	Met	Ser	Arg
		210					215					220			
Gly	Thr	Ile	Met	Phe	Lys	Val	Val	Pro	Val	Ser	Asp	Pro	Pro	Val	Asn
225					230					235				240	
Ser	Gln	Gln	Met	Val	Tyr	Val	Arg	Ala	Met	Thr	Glu	Tyr	Trp	Pro	Gln
				245					250					255	
Glu	Asp	Pro	Asp	Ile	Pro	Cys	Met	Asp	Ala	Gly	Leu	Pro	Phe	Gln	Lys
			260					265					270		
Gly	Asp	Ile	Leu	Gln	Ile	Val	Asp	Gln	Asn	Asp	Ala	Leu	Trp	Trp	Gln
		275					280					285			
Ala	Arg	Lys	Ile	Ser	Asp	Pro	Ala	Thr	Cys	Ala	Gly	Leu	Val	Pro	Ser
		290				295					300				
Asn	His	Leu	Leu	Lys	Arg	Lys	Gln	Arg	Glu	Phe	Trp	Trp	Ser	Gln	Pro
305					310					315				320	
Tyr	Gln	Pro	His	Thr	Cys	Leu	Lys	Ser	Thr	Leu	Ser	Ile	Ser	Met	Glu
				325					330					335	
Glu	Glu	Asp	Asp	Met	Lys	Ile	Asp	Glu	Lys	Cys	Val	Glu	Ala	Asp	Glu
			340					345					350		
Glu	Thr	Phe	Glu	Ser	Glu	Glu	Leu	Ser	Glu	Asp	Lys	Glu	Glu	Phe	Val
		355					360					365			
Gly	Tyr	Gly	Gln	Lys	Phe	Phe	Ile	Ala	Gly	Phe	Arg	Arg	Ser	Met	Arg
		370				375				380					
Leu	Cys	Arg	Arg	Lys	Ser	His	Leu	Ser	Pro	Leu	His	Ala	Ser	Val	Cys
385					390					395				400	
Cys	Thr	Gly	Ser	Cys	Tyr	Ser	Ala	Val	Gly	Ala	Pro	Tyr	Glu	Glu	Val
				405					410					415	
Val	Arg	Tyr	Gln	Arg	Arg	Pro	Ser	Asp	Lys	Tyr	Arg	Leu	Ile	Val	Leu
			420					425					430		
Met	Gly	Pro	Ser	Gly	Val	Gly	Val	Asn	Glu	Leu	Arg	Arg	Gln	Leu	Ile
		435					440					445			
Glu	Phe	Asn	Pro	Ser	His	Phe	Gln	Ser	Ala	Val	Pro	His	Thr	Thr	Arg
		450				455					460				
Thr	Lys	Lys	Ser	Tyr	Glu	Met	Asn	Gly	Arg	Glu	Tyr	His	Tyr	Val	Ser
465					470					475				480	
Lys	Glu	Thr	Phe	Glu	Asn	Leu	Ile	Tyr	Ser	His	Arg	Met	Leu	Glu	Tyr
				485					490					495	
Gly	Glu	Tyr	Lys	Gly	His	Leu	Tyr	Gly	Thr	Ser	Val	Asp	Ala	Val	Gln
			500					505				510			
Thr	Val	Leu	Val	Glu	Gly	Lys	Ile	Cys	Val	Met	Asp	Leu	Glu	Pro	Gln
		515					520					525			

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Asp Ile Gln Gly Val Arg Thr His Glu Leu Lys Pro Tyr Val Ile Phe
530                               535                               540
Ile Lys Pro Ser Asn Met Arg Cys Met Lys Gln Ser Arg Lys Asn Ala
545                               550                               555                               560
Lys Val Ile Thr Asp Tyr Tyr Val Asp Met Lys Phe Lys Asp Glu Asp
565                               570                               575
Leu Gln Glu Met Glu Asn Leu Ala Gln Arg Met Glu Thr Gln Phe Gly
580                               585                               590
Gln Phe Phe Asp His Val Ile Val Asn Asp Ser Leu His Asp Ala Cys
595                               600                               605
Ala Gln Leu Leu Ser Ala Ile Gln Lys Ala Gln Glu Glu Pro Gln Trp
610                               615                               620
Val Pro Ala Thr Trp Ile Ser Ser Asp Thr Glu Ser Gln
625                               630                               635

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<210> 25
<211> 1190
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<223> artificial sequence, Translation start at 48, stop at 638

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<400> 25
ataaacattg ggctgcacat agagacttaa ttttagattt agacaaaatg gaaattatatt 60
catcaaaact attcatttta ttgacttttag ccacttcaag cttgttaaca tcaaacattt 120
tttgtgcaga tgaattagtg atstccaatc ttcacagcaa agaaaattat gacaaatatt 180
ctgagcctag aggataccca aaaggggaaa gaagcctcaa ttttgaggaa ttaaaagatt 240
ggggacaaaa aaatgttatt aagatgagta cacctgcagt caataaaatg ccacactcct 300
tcgccaactt gccattgaga tttgggagga acgttcaaga agaaagaagt gctggagcaa 360
cagccaacct gcctctgaga tctggaagaa atatggaggt gagcctcgtg agacgtgttc 420
ctaacctgcc ccaaagggtt gggagaacaa caacagccaa aagtgtctgc aggatgctga 480
gtgattttgt tcaaggatcc atgcattcac catgtgccaa tgacttattt tactccatga 540
cctgccagca ccaagaaatc cagaatcccg atcaaaaaca gtcaaggaga ctgctattca 600
agaaaataga tgatgcagaa ttgaaacaag aaaaataaga aacctggagc ctgtccctaa 660
agctgtggcc tgtaatctac aaatggctct atagcgaaga ccacacggaa gagtagctac 720
atacacttca tcagctatgg atcatcaacg gcaatttttc cttgtcagta cagctataat 780
agtatcttga aagttgtaaa aaaattaaag catatttgtt acgtaaagtt aaaatgattt 840
ttgtctgaat aaaaaaaaaa cattgcaa atgctttagaaa tctctgataa tggagagaga 900
gacagaggac cctcctcact accctatata aaaatcattg gcacagttac acttaataaa 960
aaaaattaaa cagaagagca ccctgaaaaa cattatgatg gaaattaaat agtatgccag 1020
aataacatgg ttgacaaata agtgaacaag gattaaaaat cacttacaaa cgtgtttctg 1080
tacacccttt ctatcgtgtc aaatgttaat gaatctgtga tcaattgaaa tgtaaagtgc 1140
tgtgtaaaac tacaaaataa aaactcttag actttaggga gaaaagaaaa 1190

```

```

<210> 26
<211> 256
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<223> genomic DNA, Exon from 1 to 185

```

```

<400> 26
ataaacattg ggctgcacat agagacttaa ttttagattt agacaaaatg gaaattattt      60
catcaaaact attcatttta ttgacttttag ccacttcaag cttgttaaca tcaaacattt      120
tttgtgcaga tgaattagtg atstccaatc ttcacagcaa agaaaattat gacaaatatt      180
ctgaggtaag ttttttaaat ctctctaagt tgagtagcat taattacata atattaatcc      240
taagtcta at gatttt      256

```

```

<210> 27
<211> 512
<212> DNA
<213> Homo sapiens

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```

<220>
<221> misc_feature
<223> genomic DNA, Exon from 62 to 462

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```

<400> 27
gggtttaaat ctgttgctta taacaacagt atgtttattgt aatgggtcatt tctaattata      60
gcctagagga tacccaaaag gggaaagaag cctcaatttt gaggaattaa aagattgggg      120
accaaaaaat gttattaaga tgagtacacc tgcagtcaat aaaatgccac actccttcgc      180
caacttgcca ttgagatttg ggaggaacgt tcaagaagaa agaagtgtg gagcaacagc      240
caacctgcct ctgagatctg gaagaaatat ggaggtgagc ctctgtgagac gtgttcctaa      300
cctgccccaa aggtttggga gaacaacaac agccaaaagt gtctgcagga tgctgagtga      360
tttgtgtcaa ggatccatgc attcaccatg tgccaatgac ttattttact ccatgacctg      420
ccagcaccaa gaaatccaga atcccgatca aaaacagtca aggtaaatac ctggaaacca      480
gtcaaaagtgc atgggcaggt atatataggt gg      512

```

```

<210> 28
<211> 768
<212> DNA
<213> Homo sapiens

```

```

<220>
<221> misc_feature
<223> genomic DNA, Exon from 115 to 718

```

```

<400> 28
acacaattca actcaagtat aattaggcag ttaggactat ggcttgtatt tgtatacaca      60
cttgcattgt gttgttctga tgggtgacaa catttttatac tgcttacatt ttaggagact      120
gctattcaag aaaatagatg atgcagaatt gaaacaagaa aaataagaaa cctggagcct      180
gtccctaag ctgtggcctg taatctacaa atggctctat agcgaagacc acacggaaga      240
gtagctacat acacttcac agctatggat catcaacggc aatttttcct tgtcagtaca      300
gctataatag tatcttgaaa gttgtaaaaa aattaaagca tatttggtac gtaaagttaa      360
aatgattttt gtctgaataa aaaaaaagca ttgcaaatgc tttagaaatc tctgataatg      420
gagagagaga cagaggaccc tcctcactac cctatataaa aatcattggc acagttacac      480
ttaataaaaa aattaaaca gaagagcacc ctgaaaaaca ttatgatgga aattaaatag      540
tatgccagaa taacatggtt gacaaataag tgaacaagga ttaaaaatca cttacaaacg      600
tgtttctgta caccctttct atcgtgtcaa atgttaatga atctgtgatc aattgaaatg      660
taaatgtctg tgtaaaacta caaaataaaa actcttagac tttaggggaga aaagaaaaag      720
gcaactatga gttacctctt ttagtgtctc ctctatctac atccagaa      768

```

```

<210> 29
<211> 196
<212> PRT

```

<213> Homo sapiens

<400> 29

```

Met Glu Ile Ile Ser Ser Lys Leu Phe Ile Leu Leu Thr Leu Ala Thr
1          5          10          15
Ser Ser Leu Leu Thr Ser Asn Ile Phe Cys Ala Asp Glu Leu Val Ile
          20          25          30
Ser Asn Leu His Ser Lys Glu Asn Tyr Asp Lys Tyr Ser Glu Pro Arg
          35          40          45
Gly Tyr Pro Lys Gly Glu Arg Ser Leu Asn Phe Glu Glu Leu Lys Asp
          50          55          60
Trp Gly Pro Lys Asn Val Ile Lys Met Ser Thr Pro Ala Val Asn Lys
65          70          75          80
Met Pro His Ser Phe Ala Asn Leu Pro Leu Arg Phe Gly Arg Asn Val
          85          90          95
Gln Glu Glu Arg Ser Ala Gly Ala Thr Ala Asn Leu Pro Leu Arg Ser
          100          105          110
Gly Arg Asn Met Glu Val Ser Leu Val Arg Arg Val Pro Asn Leu Pro
          115          120          125
Gln Arg Phe Gly Arg Thr Thr Thr Ala Lys Ser Val Cys Arg Met Leu
          130          135          140
Ser Asp Leu Cys Gln Gly Ser Met His Ser Pro Cys Ala Asn Asp Leu
145          150          155          160
Phe Tyr Ser Met Thr Cys Gln His Gln Glu Ile Gln Asn Pro Asp Gln
          165          170          175
Lys Gln Ser Arg Arg Leu Leu Phe Lys Lys Ile Asp Asp Ala Glu Leu
          180          185          190
Lys Gln Glu Lys
          195

```

<210> 30

<211> 1188

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<223> artificial sequence, Translation start at 347, stop at 604

<400> 30

```

acacacaacg gggtttcggg gctgtggacc ctgtgccagg aaaggaaggg cgcagctcct      60
gcaatgcgga gcagccaggg cagtgggcac caggctttag cctccctttc tcaccctaca      120
gagggcaggc ccttcagctc cattctcctc caaggctgca gagggggcag gaattggggg      180
tgacaggaga gctgtaaggt ctccagtggg tcattctggg cccagagatg ggtgctgaag      240
ctcccacgcc tgcctgtgaa aatggagtcc tctctcacct gggagagcca ggtgctgccc      300
cgagaaggat gcatttatgg cttcrtgaag tctttcctga ccccgatgc tgctgactat      360
agagacaaag tctcactatg ttgctcaggc tggctctgaa ctctggcct caagcgatcc      420
tcccacctya gctcccaaa gwgttgggat tatagacatg agccactgca cctggccgac      480
cttgggcaag ttcttaaacc cttcaaagcc tcatTTTTtT ccaatcayaa aagggaaaga      540
tggtaatatt ttcccwcca aattcttgtc ggatgccctc acagaattga gattatgtac      600
gtaaaacacc aggtgcctaa cccggcacag agcaggaggg ctaagcgtga catccagcac      660
gtggtcagtg gaatccagta ttctaccca cctctctagt ctccctcca cccctctccc      720
tttcagaggc accaagctgc ttgtggtcct gtctattccc actccctgcc tgactgaaca      780
ttttctccac ctctgatca tcagcagcag aaactggctg ctcttcctcc tgggtagaca      840
gccagactgt atttcccagc tgcccctgca gtgagatgtg gccatcggag ccagcattgg      900

```

```

ccaatggact ctgcatggga gtgacgcatg cwgcctccag gcttgtccct aaaacctccc 960
acgtgtcctc sgctgtctct tcccacytcc aaggagcacg gcaattgtgg aagaccacaga 1020
ttagtgatgg cagaaccata gatgggagga acctgggtcc ctgacttaaa gtatcatgga 1080
tttgatggtt cccttagtga gaaataaact tccattgtgt ttaagccttt atttgtttat 1140
agttgggttac agcaactgcc ttcttttaat taaaacactc ctgctgct 1188

```

<210> 31
 <211> 85
 <212> PRT
 <213> Homo sapiens

<400> 31

```

Met Leu Leu Thr Ile Glu Thr Lys Ser His Tyr Val Ala Gln Ala Gly
1          5          10          15
Leu Glu Leu Leu Ala Ser Ser Asp Pro Pro Thr Ser Ala Ser Gln Ser
20          25          30
Val Gly Ile Ile Asp Met Ser His Cys Thr Trp Pro Thr Leu Gly Lys
35          40          45
Phe Leu Asn Pro Ser Lys Pro His Phe Ser Pro Ile Thr Lys Gly Lys
50          55          60
Asp Gly Asn Ile Phe Pro Thr Lys Phe Leu Ser Asp Ala Leu Thr Glu
65          70          75          80
Leu Arg Leu Cys Thr
85

```

<210> 32
 <211> 560
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <223> genomic DNA, Exon from 101 to 460

```

<400> 32
tatatgggaa tgagccagct gcaccgctgc tgacagtggc tgggataatc ctccctgagc 60
tgttccaagg attagtcctg ctgccctgtg cccagctccc acacaacggg gtttcggggc 120
tgtggaccct gtgccaggaa aggaagggcg cagctcctgc aatgcggagc agccagggca 180
gtgggcacca ggcttttagcc tccctttctc accctacaga gggcaggccc ttcagctcca 240
ttctcctcca aggctgcaga gggggcagga attgggggtg acaggagagc tgtaaggtct 300
ccagtgggtc attctgggcc cagagatggg tgctgaagct cccacgcctg cctgtgaaaa 360
tggagtcctc tctcacctgg gagagccagg tgctgccccg agaaggatgc atttatggct 420
tcatgaagtc tttcctgacc cccgatgctg ctgactatag gtaagtctga gcaaactctg 480
gggagcctca tcttggcatg agaaagagat ggcttcttct aagccactg gccgtgatcc 540
caggattata acacattctg
560

```

<210> 33
 <211> 405
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature

<223> genomic DNA, Exon from 101 to 305

<400> 33

catgagaggt	agtataatat	agaggatatg	tgtgcttact	aagaggctgc	ctgtctgacc	60
ttggacaagt	tctttttatt	tatttatatta	ttttttatag	agacaaagtc	tcactatggt	120
gctcaggctg	gtcttgaact	cctggcctca	agcgatcctc	ccaccttagc	ctcccaaaga	180
gttgggatta	tagacatgag	ccactgcacc	tggccgacct	tgggcaagtt	cttaaaccct	240
tcaaagcctc	atttttctcc	aatcataaaa	gggaaagatg	gtaatatatt	cccctccaaa	300
ttcttgtaag	tattaaacat	tgtatatgta	ttttgaacac	gattaagctc	taaacacttg	360
ttaggaagca	ggagtagcat	ttgaaacaaa	cagctctttt	cccac		405

<210> 34

<211> 821

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<223> genomic DNA, Exon from 101 to 721

<400> 34

aagtattaaa	cattgtatat	gtattttgaa	cacgattaag	ctctaaacac	ttgttaggaa	60
gcaggagtag	catttgaaac	aaacagctct	tttcccacag	gtcggatgcc	ctcacagaat	120
tgagattatg	tacgtaaaac	accagggtgcc	taaccgggca	cagagcagga	gggctaagcg	180
tgacatccag	cacgtggtca	gtggaatcca	gtattcctac	ccacctctct	agtctccctt	240
ccacccctct	ccctttcaga	ggcaccaagc	tgcttgtggt	cttgtctatt	cccactccct	300
gcctgactga	acattttctc	cacctcttga	tcatcagcag	cagaaactgg	ctgctcttcc	360
tcctgggtag	acagccagac	tgtattttcc	agctgcccct	gcagtgagat	gtggccatcg	420
gagccagcat	tggccaatgg	actctgcatg	ggagtgaagc	atgctgcctc	caggcttgct	480
cctaaaacct	cccacgtgtc	ctccgcctgc	tcttcccact	tccaaggagc	acggcaattg	540
tgggaagacc	agattagtga	tggcagaacc	atagatggga	ggaacctggg	tccctgactt	600
aaagtatcat	ggatttggat	gttcccttag	tgagaaataa	acttccattg	tgtttaagcc	660
tttatttggt	tatagttggg	tacagcaact	gccttctttt	aattaaaaca	ctcctgctgc	720
ttcatgttgc	tggaatgctt	gtaaccctgc	cctgcttcac	cagggttaact	cctacttggc	780
ctttaagttt	atctctgctg	tcacaccgtc	cagaaagcct	t		821

<210> 35

<211> 1514

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<223> artificial sequence, Translation start at 155, stop at 1192

<400> 35

gaaagtccag	ccatctgtta	cctgcgttgc	ttcctggggr	gggatagtcc	acctggaggc	60
attcggagac	ccagtgattg	tgctccgygg	agcctgggct	gtgccccgcg	ttgactgcct	120
catagatacc	ctacgaaccc	caaattgccag	ctgcatgaga	aaagggactc	accttctggt	180
tccctgcctg	gaagaggaag	agctggcatt	gcacaggaga	cggctggaca	tgtctgaggc	240
actgccctgc	ccgggcaagg	agacccccac	cccaggctgc	aggctggggg	ccctgtattg	300
ggcctgtgtc	cacaatgate	ccaccagct	ccaagccata	ctggatgggtg	gggtctcccc	360
agaggaggcc	accaggtgg	acagcaatgg	gaggacaggc	ctcatgggtcg	catgctacca	420
cggcttccag	agtgttggg	ccctgctcag	ccactgtcct	ttccttgatg	tgaaccagca	480
ggacaaagga	ggggacacgg	ccctcatgtt	ggctgcccac	gcaggccacg	tgctctagt	540

gagtctcctg	ctcaactact	atgtgggcct	ggacctggaa	cgccgggacc	agcgggggct	600
cacggcggtta	atgaaggctg	ccatgcggaa	ccgctgtgct	gacctgacag	cagtggagccc	660
tggtcggggc	aagacggccc	tggaatgggc	agtgtgacc	gacagcttcg	acaccgtgtg	720
gaggattcgg	cagctgctga	ggcgggccca	agtggagcag	cttagccagc	actacaagcc	780
cgagtggccg	gccttgctcg	ggctcgtggc	ccaggcccag	gcccaggccc	aggttgcccc	840
ttcactccta	gaacggctgc	aggctacctt	gagcctcccc	tttgccccgt	ctcctcagga	900
gggggggtgtt	ctggaccacc	ttgtgactgc	cacaaccagc	ctggccagtc	ccttcgtcac	960
cactgcctgc	cacactctgt	gccctgacca	tccaccttcg	ctgggcaccc	gaagcaagtc	1020
cgtgccagag	ctgttagtgc	cagccgaagc	ccagtccttc	aggacaccaa	agtctggccc	1080
ttcctctctg	gcgataccag	gagctcagga	tagagaagag	gaaacaggag	gaggaggcca	1140
gaatggcaca	gaagtagggg	aagatgggat	aggacaggct	gggaacagg	aatcaggccc	1200
ctcccagggc	ttctttcccc	tctggagtgc	ctccggcctc	cccatccacc	tctgcctaag	1260
taaatctgct	ctcaacctat	atatatacaa	ggtcattcat	tctagcattg	tttgcaagag	1320
tgaagagtg	gaaacacccg	aagtgtccat	cagtaaggga	caggctagat	tgattacgga	1380
tgtaattgct	gtccatccat	acagagcata	ctctacagt	tattctaaaa	taagactaag	1440
gaagctgttt	atattctgat	atgaaactac	catcaagatg	tataaagtaa	aaataactaa	1500
ggagtggaac	agtg					1514

<210> 36

<211> 1544

<212> DNA

<213> Homo sapiens

<220>

<221> misc feature

<223> artificial sequence, Translation start at 155, stop at 1222

<400> 36

gaaagtccag	ccatctgtta	ctgcggttgc	ttcctggggg	gggatagtcc	acctggaggc	60
attcggagac	ccagtgattg	tgctccgygg	agcctgggct	gtgcccgcg	ttgactgcct	120
catagatacc	ctacgaaccc	caaatgccag	ctgcatgaga	aaagggactc	accttctggt	180
tccttgccctg	gaagaggaag	agctggcatt	gcacaggaga	cggctggaca	tgtctgaggc	240
actgccctgc	ccgggcaagg	agacccccac	cccaggctgc	aggctggggg	ccctgtattg	300
ggcctgtgtc	cacaatgatc	ccacccagct	ccaagccata	ctggatggtg	gggtctcccc	360
agaggaggcc	accaggtgg	acagcaatgg	gaggacaggc	ctcatgggtc	catgctacca	420
cggcttcacg	agtgttgtgg	ccctgctcag	ccactgtcct	ttccttgatg	tgaaccagca	480
ggacaaaagg	ggggacacgg	ccctcatggt	ggctgcccac	gcaggccacg	tgctcttagt	540
gagtctcctg	ctcaactact	atgtgggcct	ggacctggaa	cgccgggacc	agcgggggct	600
cacggcggtta	atgaaggctg	ccatgcggaa	ccgctgtgag	tgctgggcca	ccctcctcat	660
ggcaggtgct	gacctgacag	cagtggaccc	tgctcggggc	aagacggccc	tggaatgggc	720
agtgtgacc	gacagcttcg	acaccgtgtg	gaggattcgg	cagctgctga	ggcgggccca	780
agtggagcag	cttagccagc	actacaagcc	cgagtggccg	gccttgctcg	ggctcgtggc	840
ccaggcccag	gcccaggccc	aggttgcccc	ttcactccta	gaacggctgc	aggctacctt	900
gagcctcccc	tttgccccgt	ctcctcagga	gggggggtgtt	ctggaccacc	ttgtgactgc	960
cacaaccagc	ctggccagtc	ccttcgtcac	cactgcctgc	cacactctgt	gccctgacca	1020
tccaccttcg	ctgggcaccc	gaagcaagtc	cgtgccagag	ctgttagtgc	cagccgaagc	1080
ccagtccttc	aggacaccaa	agtctggccc	ttcctctctg	gcgataccag	gagctcagga	1140
tagagaagag	gaaacaggag	gaggaggcca	gaatggcaca	gaagtagggg	aagatgggat	1200
aggacaggct	gggaacagg	aatcaggccc	ctcccagggc	ttctttcccc	tctggagtgc	1260
ctccggcctc	cccatccacc	tctgcctaag	taaatctgct	ctcaacctat	atatatacaa	1320
gttcattcat	tctagcattg	tttgcaagag	tgaagagtg	gaaacacccg	aagtgtccat	1380
cagtaaggga	caggctagat	tgattacgga	tgtaattgct	gtccatccat	acagagcata	1440
ctctacagt	tattctaaaa	taagactaag	gaagctgttt	atattctgat	atgaaactac	1500
catcaagatg	tataaagtaa	aaataactaa	ggagtggaac	agtg		1544

<210> 37
 <211> 345
 <212> PRT
 <213> Homo sapiens

<400> 37

```

Met Arg Lys Gly Thr His Leu Leu Val Pro Cys Leu Glu Glu Glu Glu
1      5      10      15
Leu Ala Leu His Arg Arg Arg Leu Asp Met Ser Glu Ala Leu Pro Cys
20     25     30
Pro Gly Lys Glu Thr Pro Thr Pro Gly Cys Arg Leu Gly Ala Leu Tyr
35     40     45
Trp Ala Cys Val His Asn Asp Pro Thr Gln Leu Gln Ala Ile Leu Asp
50     55     60
Gly Gly Val Ser Pro Glu Glu Ala Thr Gln Val Asp Ser Asn Gly Arg
65     70     75     80
Thr Gly Leu Met Val Ala Cys Tyr His Gly Phe Gln Ser Val Val Ala
85     90     95
Leu Leu Ser His Cys Pro Phe Leu Asp Val Asn Gln Gln Asp Lys Gly
100    105    110
Gly Asp Thr Ala Leu Met Leu Ala Ala Gln Ala Gly His Val Pro Leu
115    120    125
Val Ser Leu Leu Leu Asn Tyr Tyr Val Gly Leu Asp Leu Glu Arg Arg
130    135    140
Asp Gln Arg Gly Leu Thr Ala Leu Met Lys Ala Ala Met Arg Asn Arg
145    150    155    160
Cys Ala Asp Leu Thr Ala Val Asp Pro Val Arg Gly Lys Thr Ala Leu
165    170    175
Glu Trp Ala Val Leu Thr Asp Ser Phe Asp Thr Val Trp Arg Ile Arg
180    185    190
Gln Leu Leu Arg Arg Pro Gln Val Glu Gln Leu Ser Gln His Tyr Lys
195    200    205
Pro Glu Trp Pro Ala Leu Ser Gly Leu Val Ala Gln Ala Gln Ala Gln
210    215    220
Ala Gln Val Ala Pro Ser Leu Leu Glu Arg Leu Gln Ala Thr Leu Ser
225    230    235    240
Leu Pro Phe Ala Pro Ser Pro Gln Glu Gly Gly Val Leu Asp His Leu
245    250    255
Val Thr Ala Thr Thr Ser Leu Ala Ser Pro Phe Val Thr Thr Ala Cys
260    265    270
His Thr Leu Cys Pro Asp His Pro Pro Ser Leu Gly Thr Arg Ser Lys
275    280    285
Ser Val Pro Glu Leu Leu Val Pro Ala Glu Ala Gln Ser Phe Arg Thr
290    295    300
Pro Lys Ser Gly Pro Ser Ser Leu Ala Ile Pro Gly Ala Gln Asp Arg
305    310    315    320
Glu Glu Glu Thr Gly Gly Gly Gly Gln Asn Gly Thr Glu Val Gly Glu
325    330    335
Asp Gly Ile Gly Gln Ala Gly Asn Arg
340    345

```

<210> 38
 <211> 355
 <212> PRT
 <213> Homo sapiens

<400> 38

```

Met Arg Lys Gly Thr His Leu Leu Val Pro Cys Leu Glu Glu Glu Glu
1      5      10      15
Leu Ala Leu His Arg Arg Arg Leu Asp Met Ser Glu Ala Leu Pro Cys
20      25      30
Pro Gly Lys Glu Thr Pro Thr Pro Gly Cys Arg Leu Gly Ala Leu Tyr
35      40      45
Trp Ala Cys Val His Asn Asp Pro Thr Gln Leu Gln Ala Ile Leu Asp
50      55      60
Gly Gly Val Ser Pro Glu Glu Ala Thr Gln Val Asp Ser Asn Gly Arg
65      70      75      80
Thr Gly Leu Met Val Ala Cys Tyr His Gly Phe Gln Ser Val Val Ala
85      90      95
Leu Leu Ser His Cys Pro Phe Leu Asp Val Asn Gln Gln Asp Lys Gly
100     105     110
Gly Asp Thr Ala Leu Met Leu Ala Ala Gln Ala Gly His Val Pro Leu
115     120     125
Val Ser Leu Leu Leu Asn Tyr Tyr Val Gly Leu Asp Leu Glu Arg Arg
130     135     140
Asp Gln Arg Gly Leu Thr Ala Leu Met Lys Ala Ala Met Arg Asn Arg
145     150     155     160
Cys Glu Cys Val Ala Thr Leu Leu Met Ala Gly Ala Asp Leu Thr Ala
165     170     175
Val Asp Pro Val Arg Gly Lys Thr Ala Leu Glu Trp Ala Val Leu Thr
180     185     190
Asp Ser Phe Asp Thr Val Trp Arg Ile Arg Gln Leu Leu Arg Arg Pro
195     200     205
Gln Val Glu Gln Leu Ser Gln His Tyr Lys Pro Glu Trp Pro Ala Leu
210     215     220
Ser Gly Leu Val Ala Gln Ala Gln Ala Gln Val Ala Pro Ser
225     230     235     240
Leu Leu Glu Arg Leu Gln Ala Thr Leu Ser Leu Pro Phe Ala Pro Ser
245     250     255
Pro Gln Glu Gly Gly Val Leu Asp His Leu Val Thr Ala Thr Thr Ser
260     265     270
Leu Ala Ser Pro Phe Val Thr Thr Ala Cys His Thr Leu Cys Pro Asp
275     280     285
His Pro Pro Ser Leu Gly Thr Arg Ser Lys Ser Val Pro Glu Leu Leu
290     295     300
Val Pro Ala Glu Ala Gln Ser Phe Arg Thr Pro Lys Ser Gly Pro Ser
305     310     315     320
Ser Leu Ala Ile Pro Gly Ala Gln Asp Arg Glu Glu Glu Thr Gly Gly
325     330     335
Gly Gly Gln Asn Gly Thr Glu Val Gly Glu Asp Gly Ile Gly Gln Ala
340     345     350
Gly Asn Arg
355

```

<210> 39

<211> 183

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<223> genomic DNA, Exon from 1 to 143

<400> 39

```

gaaagtccag ccattctgtta cctgcgttgc ttcctggggr gggatagtcc acctggaggc      60
attcggagac ccagtgattg tgctccgygg agcctgggct gtgccccgcg ttgactgcct      120
catagatacc ctacgaaccc caagtaagaa aaaacgacga ccctctctcc gtgagtctca      180
ctg                                          183

```

<210> 40

<211> 462

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<223> genomic DNA, Exon from 108 to 358

<400> 40

```

gggataaatg ttttccctgg ggcaagggtc gtgcacttgc cagctgctgg gtccccctccc      60
taggatccag ggagacactc actactcctc tccattctgt gttttagatg ccagctgcat      120
gagaaaaggg actcaccttc tggttccctg cctggaagag gaagagctgg cattgcacag      180
gagacggctg gacatgtctg aggcactgcc ctgccccggc aaggagaccc ccaccccagg      240
ctgcaggctg ggggccctgt attgggcctg tgtccacaat gatcccaccc agctccaagc      300
catactggat ggtggggctc ccccagagga ggccacccag gtggacagca atgggagggt      360
gagatgtcct ggcttcccag aacagctggg ggcattcttg catccccacc acaccgtcct      420
ggcctggctc cctgagaggg gttcaggggc aatacctcct gc                                          462

```

<210> 41

<211> 308

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<223> genomic DNA, Exon from 89 to 218

<400> 41

```

ctctgggaca gatatgggtt tagaggggtc aaggggccct ggagtggccc aggggggaaag      60
caggggatct gagctgcccc tccctcagac aggcctcatg gtcgcatgct accacggctt      120
ccagagtgtt gtggccctgc tcagccactg tcccttcctt gatgtgaacc agcaggacaa      180
aggaggggac acggccctca tgttggtcgc ccaagcaggt gtgaggctgc tgcacccac      240
ttccgacagc ccccttttga tgcagacagg gcctcagccc cacccttggt gcacgggtgtt      300
ctacacca                                          308

```

<210> 42

<211> 231

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<223> genomic DNA, Exon from 49 to 159

<400> 42

```

tcatcacccc ctttcctggg gaccaagctt acccttgctg ccctgcaggc cacgtgcctc      60
tagtgagtct cctgctcaac tactatgtgg gcctggacct ggaacgccgg gaccagcggg      120

```

```

ggctcacggc gttaatgaag gctgccatgc ggaaccgctg tgagtgcgtg gccaccctcc 180
tcatggcagg tgtgcggggc ctggaccggg gtgtgtggcc tccagtcct c 231

```

```

<210> 43
<211> 231
<212> DNA
<213> Homo sapiens

```

```

<220>
<221> misc_feature
<223> genomic DNA, Exon from 49 to 189

```

```

<400> 43
tcatcacccc ctttcctggg gaccaagctt acccttgctg ccctgcaggc cacgtgcctc 60
tagtgagtct cctgctcaac tactatgtgg gcctggacct ggaacgccgg gaccagcggg 120
ggctcacggc gttaatgaag gctgccatgc ggaaccgctg tgagtgcgtg gccaccctcc 180
tcatggcagg tgtgcggggc ctggaccggg gtgtgtggcc tccagtcct c 231

```

```

<210> 44
<211> 588
<212> DNA
<213> Homo sapiens

```

```

<220>
<221> misc_feature
<223> genomic DNA, Exon from 98 to 499

```

```

<400> 44
aatgtaaccc acatcagtct tgctcctaaa gaatctgccc ttccacaaat caccaacccc 60
tatcccggcc catgtcacc cctgtgctcc ttcccagggt ctgacctgac agcagtggac 120
cctgttcggg gcaagacggc cctggaatgg gcagtgtga ccgacagctt cgacaccgtg 180
tggaggattc ggcagctgct gaggcggccc caagtggagc agcttagcca gcaactacaag 240
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accactgcct gccacactct gtgccctgac catccacctt cgctgggcac ccgaagcaag 480
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<213> Homo sapiens

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aggaggccag aatggcacag aagtagggga agatgggata ggacaggctg ggaacaggta 180
atcaggcccc tcccagggtt tctttccct ctggagtgcc tccggcctcc ccatccacct 240
ctgcctaagt aaatctgctc tcaacctata tatatacaag gtcattcatt ctagcattgt 300
ttgcaagagt gaaagagtgg aaacaccoga agtgtccatc agtaaggga aggctagatt 360
gattacggat gtaattgctg tccatccata cagagcatac tctacagtgt attctaaaat 420

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aagactaagg aagctgttta tattctgata tgaaactacc atcaagatgt ataaagtaaa 480
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18

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<210> 70
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18

C!
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18